ABSTRACT

An antenna system to enable satellite communication with a moving vehicle, such as an aircraft, includes an array formed by a group of subarrays. The array is positioned within a cavity and arranged to be mechanically tilted about a horizontal axis-of-rotation to provide elevation scanning of an antenna beam pattern (e.g., 20 to 90 degree elevation scan). The array, with the cavity, is mechanically rotated to provide azimuth scanning of the beam pattern (e.g., 360 degree azimuth scan). Each subarray may be a square flat-plate array having slot-type radiating elements (e.g., simple or crossed-slot elements). Equal excitation of the subarrays for receive or transmit may be provided by a feed configuration at the back of the array.

SEQUENCE LISTING

(Not Applicable)